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Post-war Traffic Control Is a Problem, Experts Say

Existing traffic control facilities are inadequate for anticipated post-war needs, according to a study recently completed by the CAA and concurred with by a committee of the Radio Technical Commission for Aeronautics.

The Aeronautics Technical Committee of the RTCA convened in Washington, April 27, to discuss and pass on proposed plans developed from the results of the air traffic control study which sought to lay the groundwork for developments as far ahead as 1950. The study has been endorsed in general by the committee, with certain changes and revisions being agreed upon.

As part of the meeting, the automatic air traffic control communication and posting equipment at the Washington National Airport was inspected and a demonstration given of the equipment in action.

Plans Laid to 1950

The report of the study consists of six major parts. The first part describes fundamental principles of present-day air traffic control, the second part outlines air traffic conditions which may be expected during the next seven years, or roughly to 1950, and the third analyzes limitations of present air traffic control methods and facilities in comparison with anticipated future traffic. Parts four, five, and six set forth plans for improvements in air traffic control in three stages—immediate improvements, improvements which should be started now so as to be available by 1945, and long range improvements covering the period from 1945 to 1950.

The chief of the CAA Air Traffic Control Division, is chairman of the Aeronautics Technical Committee. The other members include representatives of the Army Air Forces, the Navy Department, the Interdepartmental Air Traffic Control Board, Air Transport, Air Line Pilots Association, Aircraft Owners and Pilots Association, the Civil Aeronautics Board and the Civil Aeronautics Administration.

Released Soon

The CAA's report will now be written as a general release to serve as a guide in planning anticipated future requirements of air traffic control. Revisions will be made from time to time as new plans are developed.

(*See Traffic Control, page 67*)

Quarterly Report On WTS Is Issued

While the placing of the War Training Service on a war-time basis has resulted in a great increase in volume of training, it has resulted in a decrease in the number of training centers, according to a quarterly statement on the Service's program issued April 21 by William A. M. Burden, Special Assistant to the Secretary of Commerce.

In presenting his statement Mr. Burden pointed out that although the CAA is training larger numbers of pilots for both the Army and the Navy, training is now centralized at those schools where trainees can be handled in accordance with military administration and discipline requirements This concentration, which was proposed by the services, also permits better supervision and simplifies the problem of aircraft maintenance, inasmuch as there is a scarcity of spare parts.

Airlines Look West to Orient; East to Moscow

As a plane flies, Manila is on the far end of the route which leads from Nome, Alaska, and stops off along the way in China at Peiping and Shanghai. It's the route that Northwest Airlines is laying future plans for in its application for airline service to Nome.

Northwest has Seattle as a starting point. It now operates a service from Chicago to Seattle, which, it believes, is the principal Pacific coast gateway to Alaska and the Orient. And, as the first step in accommodating the increasing flow of commerce from that city, the airline is asking an extension to Nome on the basis that there is now no direct commercial air service between Seattle, Anchorage, and Nome. The proposed route would be for the most part an over-the-water operation outside of the coast line of Canada.

Northwest indicated that it will apply for the right to carry mail, passengers, and property over the Nome-Manila route when it is possible to have such a service. Also, it will ask for service out of Seattle over the same route with Peiping as the fork in the road where it will send one branch out to Calcutta, India, via Chungking.

To the East

In the other direction, Northeast Airlines is anticipating extensive air service over the Atlantic with an application for routes that would reach eight countries in northern Europe and extend as far as Moscow.

With Boston as the starting point on this side of the ocean, Northeast proposes one route to London and Paris, and another beyond London to Moscow, with

(*See Airlines, page 67*)

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General Carranza a Visitor

General Alberto Salinas Carranza, former Chief of Military Aeronautics of Mexico and now Chief of the Department of Civil Aeronautics of Mexico, visited Washington recently to confer with various Government officials.

The distinguished visitor, a nephew of former President Carranza of Mexico, is also Chairman of the Mexican National Commission of the Permanent American Aeronautical Commission.

Use Colored Bullets

So that gun crews of groups of warplanes firing at targets during practice may be given credit for their shots, the bullets used by the men in each ship are painted a different color. As the projectiles strike the target, bits of the color adhere to the surface, indicating to the checkers just which plane crews have scored each individual hit.

New Pilot Grades Proposed by Board

A proposal to liberalize the certification of airline transport pilots so as to allow copilots to acquire more experience in commanding airliners has been submitted to the industry by the Civil Aeronautics Board.

Issued in the form of a Draft Release proposing the amendment of Part 21 of the Civil Air Regulations, the proposal outlines the establishment of three grades of transport pilot certificates. Pilots of scheduled air carrier aircraft would be certificated in three ascending grades as follows: (a) Junior Airline Transport Pilot (aeronautical experience: commercial pilot certificate and instrument rating); Airline Transport Pilot (aeronautical experience: 600 solo hours; 100 of which logged in 12 months preceding application; 300 of which in aircraft of at least 200 m. e. t. o.[1] horsepower; 100 of which cross-country; 50 of which night in aircraft of at least 200 m. e. t. o. horsepower, with at least 10 take-offs and landings; and at least 50 hours of instrument time).

Senior Airline Transport Pilot (aeronautical experience: 1,200 solo hours; 200 of which logged in 12 months preceding application; 600 of which in aircraft of at least 200 m. e. t. o. horsepower; 500 of which cross-country; 100 of which night in aircraft of at least 200 m. e. t. o. horsepower; of which 50 shall have been cross-country; and at least 5 hours, including at least 10 take-offs and 10 landings, shall have been within year immediately preceding application; at least 100 hours instrument time).

Start Aviation Library With CAA Reports

Volume I of the Civil Aeronautics Authority Reports, the first document of aviation legal decisions issued by the government, and containing all the important decisions reached by the Authority, is available to the public. These decisions have set many precedents for later decisions and will be referred to in forthcoming volumes to be issued by the Civil Aeronautics Board, the agency which is continuing the quasi-judicial work of the former Authority. The second volume of these reports has been sent to the printers, and, as soon as printing is completed, notice of its publication will be carried in the Journal.

Copies of Volume I are on sale in a cloth-bound edition for $1.50 a copy by the Superintendent of Documents, Government Printing Office, Washington, D. C.

[1] Maximum except take-off.

WPB-CAA Revise Rental Rules For Light Planes

WPB restrictions on the rental of light aircraft have been eased to make it possible for plane owners, upon application, to rent planes to students who are qualifying themselves for war flying jobs.

This means that operators who do not have WTS contracts will be able to continue commercial training, although they are still subject to restrictions such as types of trainees and availability of parts and training planes.

Limitation Order L-262, issued in January, brought the sale and rental of all single-engined aircraft of 500 horsepower or less and all Link-trainers under the control of the War Production Board so that enough planes could be acquired for war training programs.

Renting Rules

The rental phase of the order has been restated and clarified for plane owners of small aircraft which are not in present use in CAA's War Training program, and for students who are working toward war jobs and need planes to finish their training courses or to take tests. Aircraft may be used by the owner as long as the plane is not rented, sold or transferred to another.

To get permission to rent specified planes the operator must apply to the War Production Board in Washington.

Student Application

The student who uses the plane must be certified by CAA as qualifying himself for a flying job essential to the war, and must pledge to accept war work upon the completion of that training.

In his application to rent aircraft for training, the student must state his age, flying experience, education, present occupation and the position in the war field for which he wants to train. He must submit evidence that he is financially able to complete training within a reasonable time and, if eligible for draft, must have a statement from his draft board that it will not call him to duty within any reasonable length of time it may take to finish the training—six months at the utmost.

Need 7,000 Planes

Planes used under such circumstances will still be subject to purchase for the CAA War Training Service, whose requirements in all cases have first priority. With a need for 7,000 planes in carrying out flight training of men enlisted in the Army and Navy, CAA will have to acquire in the near future several thousand planes which are still in civilian hands. About 30,000 men are continually in training, over three times as many trainees as have ever before been handled by CAA in any one year.

WTS Acts To Help Trainees, Employees, Enter the Services

Steps have recently been taken to insure that trainees and employees in the CAA War Training Service program are absorbed by the armed forces in an order commensurate with their skill and experience.

Arrangements have been made with the War Department for the voluntary induction and subsequent assignment to the Air Corps Enlisted Reserve on temporarily inactive status of instructors, mechanics, and other key personnel at CAA War Training Service schools.

Remain Inactive

Key employees who apply for induction under this procedure will remain on inactive status for 6 months to a year while engaged in training Army flying cadets. In this way, CAA schools will be able to feed seasoned men into more advanced duties with the Air Forces, without interruption of their present large-scale program of training flying cadets.

Similar arrangements are in effect with the Navy Department for personnel of CAA schools engaged in training naval air cadets. Reservists will be in the grade of private while on inactive status.

Applications for enlistments under this plan must be endorsed by the employer and the CAA War Training Service, and approved by the Adjutant General.

Can Become Cadets

The opportunity to apply for acceptance as a regular Army aviation cadet has been offered to men between 18 and 26 who have been enlisted in the Air Corps Reserve for noncombat training by the CAA War Training Service, but are not at the moment assigned to a pilot course. CAA trainees not qualified for Aviation Cadet can request a call to active duty as privates in the Air Forces should economic reasons prevent their remaining in the CAA program as Enlisted Reservists on inactive status.

These measures are temporary ones, according to R. McLean Stewart, Executive Director of Training, designed to give emergency relief. The necessity remains, he said, for legislation to provide pay for CAA trainees. Applicants for aviation cadet must obtain a certificate of availability from a CAA War Training Regional or District Office and present it to an Army Aviation Cadet Examining Board within 15 days.

Oversee Plane Building

CAA technical experts on aircraft design and maintenance are supervising the construction of sensational new cargo planes for Army and Navy use.

3,500 H. S. Teachers Trained In CAA Preflight Program

Over 3,500 high school teachers are attending classes at CAA expense during evenings, weekends, and in concentrated vacation periods this spring to become better qualified instructors of preflight aeronautics. College, universities, and other teacher training institutions have quickly organized courses in cooperation with the CAA to provide this training.

The importance of such training to military aviation and to the post-war development of air commerce is fully recognized by these teachers. That is the chief reason why they are willing to enroll in a course of concentrated study that is admittedly not easy when taken in conjunction with a full teaching schedule of their own.

Future Airmen

Since the high schools contain the nation's greatest untapped reservoir of potential airmen for military aviation, the CAA has encouraged and assisted the schools to start training their students to take a significant part in aviation. The chief medium is the preflight aeronautics science course which is being established at the junior and senior level in the high schools. Approximately 14,000 high schools, or half of the high schools in the country, have established preflight aeronautics classes this school year. The CAA has also helped make available appropriate science texts and teaching manuals for use in preflight aeronautics courses. But that does not go far enough.

Teacher Shortage

The supply of teachers qualified to instruct high school students in preflight aeronautics has always been small. This is understandable. The CAA program to introduce this course in the schools started only last summer. Selective Service and war industries, too, have drained the supply from the science and mathematics fields.

The only solution to this problem is to train more teachers. And the CAA has undertaken it by contracting with approximately 170 teacher training institutions, well distributed throughout the country, to give subsidized courses.

This course of study is highly concentrated and embraces the following units:

Subject	Hours Min.	Hours Max.
Introduction to Preflight Aeronautics	1	1
General Servicing and Operation of Aircraft	17	19
Meteorology	15	18
Navigation	13	15
Civil Air Regulations	5	7
Preflight Aeronautics in Secondary Schools	1	2
Final Examination	2	2
	54	64

One of several suitable high school texts, as well as Civil Aeronautics Bulletins for reference, are used. In addition, the CAA Preflight Aeronautics Program provides materials prepared especially for teaching needs—statements on methods of meeting problems arising in the teaching of the subject, meteorology kits prepared with the help of the Weather Bureau, special study references, etc.

Start Own Courses

Although 3,500 teachers are enrolled in these classes at CAA expense, the Preflight Aeronautics Program has urged the training institutions to open up their classes on a nonsubsidized basis to additional teachers of pre-flight aeronautics. Many of these colleges have doubled their enrollment in this way, and the combined enrollment is expected to reach close to 4,500 teachers of preflight aeronautics by June 30, when the subsidized CAA program will close.

This method was successful in the summer of 1942 when the American Association of Teachers Colleges and the Association of American Colleges, working in cooperation with the CAA, encouraged member institutions to offer teacher training courses in this field on a regular tuition basis. It is estimated that over 1,000 teachers took advantage of these courses. At the same time more than 2,000 were trained by CAA.

Thus by the close of the present school year approximately 7,500 teachers will have obtained special training to enable them to teach preflight aeronautics in high schools.

The CAA Preflight Aeronautics Program is continuing to work with teacher training institutions who are planning their own courses for teachers of preflight aeronautics in the summer and fall of 1943 by providing suggested course outlines and other teaching materials.

Public Comment Asked

Returns are coming in to the Civil Aeronautics Board on its canvass of the aviation industry for ideas on how best to formulate a post-war commercial air policy for the United States. The deadline for returns is June 1.

On May 5 the Board mailed questionnaires to several hundred government and industry aviation leaders and asked that they comment freely on such practical matters as how best to dispose of Government-owned aircraft after the war; and what measures should be taken to facilitate conversion of aircraft manufacturing to a peace-time basis.

International air policy is being explored through such questions as: Should a permanent international organization be established to formulate safety standards or to control rates and competition; and should there be a reciprocal exchange with other countries of general rights of air passage?

25th Year for U. S. Air Mail Service . . .

Early Planes and Latest Models On Display at National Airport

May 15 is the twenty-fifth anniversary of regular Air Mail Service in the United States. Founded in 1918, by the Post Office Department and the U. S. Army when the initial flight was made between New York and Washington, air transport service has grown to world-wide size.

The attention of the nation is being called to the career of this remarkable young industry and the brilliant future before it with local ceremonies staged throughout the country and centered in a program at the Washington National Airport May 16.

President Roosevelt, present at the initial flight in 1918 as Assistant Secretary of the Navy, is honorary chairman of the advisory committee, made up of the most representative leadership of the nation's aviation industry, business and political life ever gathered together for an aeronautical event.

Pioneer Planes

Prominent on the Washington program will be pioneers who took part in the first air mail and the young pilots who today are flying oceans and continents. A collection of old planes which flew the early air mail routes will be on display alongside the four-motored behemoths that now shuttle between the far places of the earth.

On show will be the plane making the 1918 flight, a Curtiss JN4E, familiarly known as the Jenny, a Pitcairn mail wing used a decade ago. The autogiro which operated for awhile from the Philadelphia post office to Camden, N. J., will be in action with the same pilot at the controls. Pennsylvania Central Airlines will have on display a Waco OX-5, the first type of ship they used on their line from Pittsburgh to Cleveland in 1927. Other airlines will have early planes used in their operations.

Latest Models

Four typical Army cargo planes will be open for close inspection by the public, and demonstrations of cargo loading, hospital planes, troop-carrying, glider-towing and emergency life-saving equipment will be staged. Crew members of air freighters will tell of their experiences on world air routes.

The newest in air mail techniques, the pick-up service for towns not on major air routes, will be demonstrated at Washington.

Co-chairmen of the advisory committee are Jesse H. Jones, Secretary of Commerce, and Frank C. Walker, Postmaster General. William A. M. Burden, Special Aviation Assistant to the Secretary of Commerce, and Charles I. Stanton, Civil Aeronautics Administrator, serve as executive vice-chairmen.

Who's Who Committee

Membership includes the Vice President and all members of the Cabinet, Chief Justice Harlan F. Stone, Harry Hopkins, James F. Byrnes, Donald Nelson, and other high-up government officials; ranking Army and Navy officers, and congressional leaders.

The aviation industry is represented by: Juan Trippe, Pan American Airways; Henry J. Kaiser; A. N. Kemp, American Airlines; Igor Sikorsky, United Aircraft Corporation; Henry Ford; C. E. Faulk, Delta Air Corporation; C. J. Brukner, Waco Aircraft Company; P. G. Johnson, Boeing Aircraft Company; Walter H. Beech, Beech Aircraft Company; Harold J. Roig, Pan American Grace Airways; J. H. Kindelberger, North American Aviation; C. J. McCarthy, United Aircraft Corporation; Alfred P. Sloan, General Motors Corp.; T. M. Girdler, Consolidated Vultee Aircraft Corp.; T. Claude Ryan, Ryan Aeronautical Company; Stanley C. Kennedy, Hawaiian Airlines Limited; La Motte T. Cohu, Northrop Aircraft; and Richard C. DuPont, All-American Aviation.

Aviation Pioneers

Among the founders and pioneers who are expected to participate in the National Airport ceremonies are Senator Kenneth McKellar, who introduced the appropriation bill providing funds for the beginning of air mail service; Otto Praeger, who, as Second Assistant Postmaster General in 1918, was "father of air mail"; E. Hamilton Lee, one of the first group of civilian air mail pilots, and dean of all living air mail pilots; and Maj. J. C. Edgerton, who as a second lieutenant, flew the first air mail trip.

Stanton, Air Pioneer

CAA's foremost pioneer on the anniversary program is Administrator Charles I. Stanton, who was test pilot for the now famous first air mail service of 1918. Mr. Stanton began his flying career in 1917. He learned to fly at Kelly Field and served as second lieutenant with the 122d Aero Squadron. He has been in the aviation field ever since with the Air Mail Division of the Post Office Department, the Aeronautics Branch of the Commerce Department, and since 1942 as head of the Civil Aeronautics Administration.

Air Transport Chalks Up Triumphs

Air transport is making a vital contribution to victory, speeding essential supplies and personnel to all of our far-flung fighting fronts. Whenever President Roosevelt, Prime Minister Churchill, Premier Molotov, Generalissimo Chiang-kai-shek, or the commanding officers of the United Nations' armies and navies have important conferences to attend, they go by plane as the swiftest and safest mode of travel.

Commercial Airlines

In 1941, the last normal year of operation, the American commercial airlines flew 4,380,000 passengers more than 1,675,000,000 passenger-miles at home and abroad, transporting at the same time 44,600,000 pounds of mail and 22,315,000 pounds of express and freight—a startling increase since 1926 when their traffic consisted of 5,780 passengers, 377,200 pounds of mail, and 3,555 pounds of express and freight.

During 1942, as an integral part of the war effort, the domestic airlines carried almost as many passengers and a much larger volume of mail and freight, accomplishing this with greatly reduced fleets.

Their international and transoceanic services have been greatly expanded. A Pan-American pilot, flying out of La-Guardia Field, recently crossed and recrossed the Atlantic twelve times in thirteen days. On another recent occasion he made a round trip across the South Atlantic, from South America to Africa and back again, in a single day.

Military Transport

Simultaneously, there has been a phenomenal growth in the operations of the Army Air Transport Command and the Naval Air Transport Service. Both are flying passengers and freight, laying down everything from jeeps to blood plasma in Alaska, our island possessions and bases, Australia, India, China, North Africa, and Britain. On their return trips they bring strategic raw materials and other vital war supplies.

At the present time the Army Air Transport Command has more planes, pilots, and stations than the entire Army Air Force in 1938. It is now flying 15 types of ships along routes totaling more than 60,000 miles. If the war continues into 1944, the Command expects to be flying a maze of global routes ten times the length of the combined routes of all the pre-war commercial airlines in the world.

American air transport has no peer for size, efficiency, and safety of operations, and the root of its astonishing success goes back to the inauguration of the U. S. Air Mail Service on that historic May 15, 1918.

High Points in Air Mail Growth . . .

Here are the important milestones in the development of Air Mail Service in the United States.

July 4, 1835—Richard Clayton carried first aerial mail (unofficial) in the United States in a balloon at Cincinnati.

Aug. 17, 1859—John Wise and John LaMountain carried what is believed to be the first official air mail in balloon, Jupiter, at Lafayette, Ind.

June 14, 1910—The late Representative Morris Sheppard of Texas introduced first air mail bill.

Sept. 23–Oct. 2, 1911—Earl Ovington carried first airplane mail in Blériot monoplane from Nassau Boulevard, Long Island, to Garden City Estates, Long Island, a distance of about 10 miles. Henry H. ("Hap") Arnold, now Commanding General, U. S. Army Air Forces, also carried mail during this air meet.

Feb. 12, 1916—First bids for air mail routes advertised by the Post Office Department, but no contracts signed because of difficulty in obtaining equipment while war takes all available material.

Nov. 2, 1916—Victor ("Swede") Carlstrom flew first mail from Chicago to New York, consigned to German submarine *Deutschland*.

May 15, 1918—First regular air mail service started by Post Office Department and U. S. Army between New York and Washington. Date subsequently recognized as first official air mail in United States and carved on Post Office Department Building, Washington. Maj. Reuben Fleet, later president of Consolidated Aircraft Corporation, was in charge of the Army pilots assigned to air mail duty, including Capt. Torrey Webb, Lt. James C. Edgerton, and Lt. George Boyle. Present at the initial flight from Washington were President Wilson, his Assistant Secretary of Navy, Franklin D. Roosevelt, and other notables. Lieutenant Edgerton later was an official of the Post Office Department Air Mail Service, Bureau of Air Commerce, and Civil Aeronautics Administration, and is now on active duty in Florida.

Aug. 12, 1918—In the midst of war, the Post Office Department took over complete control of air mail service, with Benjamin B. Lipsner as the first superintendent of the air mail. Mr. Lipsner is now with the Aircraft Division of War Production Board in Washington.

March 3, 1919—Edward Hubbard and W. E. Boeing carried first mail under private contract and established first foreign mail route, between Seattle and Victoria.

May 15, 1919—Chicago-Cleveland air mail service begun after unsuccessful attempts starting December 12, 1918.

July 1, 1919—Chicago-Cleveland service extended to New York; daylight only.

May 15, 1920—New York to Chicago mail service extended to Iowa City and Omaha on second anniversary of air mail; daylight only.

Aug. 16, 1920—Chicago to St. Louis route opened.

Sept. 1, 1920—Chicago to Minneapolis and St. Paul service started.

Sept. 8, 1920—Post Office Department established regular service between New York and San Francisco; daylight only.

Feb. 22, 1921—Jack Knight's famous mail flight, enabling completion of continuous continental crossing for the first time in day-night and day. Service included San Francisco, Reno, Rawlins (Wyo.), Cheyenne, North Platte, Omaha, Iowa City, Chicago, Cleveland, and New York, while citizens at intermediate points improvised a lighted airway by building bonfires. Knight, a native of Kansas, was recently associated with the CAA War Training Service. Knight was scheduled to fly only the 276-mile leg from North Platte to Omaha, between 10:44 p. m. and 1:15 a. m. But when he reached Omaha, he found that the scheduled relay plane and pilot was grounded at Chicago, and he had to continue for 435 miles of unfamiliar territory in darkness and snow. At Iowa City, he found that the ground crew had given up hope of the mail coming through and gone to bed, but with the aid of the night watchman he landed, refueled and continued, reaching Chicago at 8:40 a. m.

Aug. 21, 1923—Lighted transcontinental airway tested out in four nights of successful operation. Regular cross-country night mail held up by lack of appropriations.

July 1, 1924—Regular 'round-the-clock mail service established on New York-Chicago-San Francisco route, with completion of the lighted airway from Chicago to Cheyenne.

Feb. 2, 1925—Passage of the Kelly Bill, which becomes the first Air Mail Act, providing for the transference of air-mail operations to private contractors.

July 1, 1925—Postmaster General New authorized overnight service over the difficult "graveyard run," New York to Cleveland. Entire country now spanned by day and night air mail service.

Oct. 7, 1925—First five contracts for private operation of mail service on feeder routes let by Postmaster General New. Private operators were Colonial Air Transport, Robertson Aircraft Corporation, National Air Transport, Western Air Express, and Walter T. Varney.

Dec. 1926—First model of directive radio beacon, vital guide to air mail flying completed at College Park, Maryland, by predecessor agency of CAA.

Aug. 31, 1927—Post Office Department relinquished last of its mail routes to private operators.

1930—Work started by Department of Commerce on instrument landing system now being widely installed by CAA for Army use. Development of airways aids bridges gap between pioneer air mail flying and today's global transport operations. Personifying this growth is Charles I. Stanton, who joined Department of Commerce in 1927 as Airways Extension Superintendent and today is Administrator of Civil Aeronautics.

Nov. 22, 1936—Pan American Airways inaugurated the first scheduled trans-Pacific air mail service from San Francisco, California, to Manila, P. I.

July 5–6, 1937—Pan American Airways and Imperial Airways made survey passenger and mail flights across the North Atlantic.

March 5, 1939—All-American Aviation successfully demonstrated aerial pick-up service, thereby putting small towns on mail routes. Began regular service to 115 communities in Pennsylvania, Ohio, New York, Kentucky, Delaware, and West Virginia, March 10.

1940—CAA commissioned Station WSY, New York, first of the six aeronautical radio stations intended to provide two-way communication with aircraft and point-to-point weather and dispatching service on U. S.-flown global routes.

May 28, 1941—President Roosevelt directed Army to take responsibility of delivering aircraft to United Kingdom. Ferrying Command formally established by memorandum June 5, 1941. Now known as Air Transport Command with greatly enlarged duties, including carrying of mail. Maj. General Harold George, a native of Massachusetts, is in command.

Dec. 29, 1941—Naval Air Transport Service established by order of Secretary of Navy. Commander Schildhauer, a native of Wisconsin, put in command.

June 15, 1942—"V" Mail to men overseas inaugurated by Army Postal Service, which has since handled some 30 million pieces of mail by this process—photographing the letter on tiny microfilm, most of which is flown abroad, and there printed back to original size and delivered. The method saves cargo space, speeds delivery, and permits duplication if film should be lost in transit.

1942—CAA established intercontinental radio stations at San Francisco; Everett, Wash.; Anchorage, Alaska; Honolulu; and New Orleans, completing chain of communication with aircraft leaving the United States for any point in the world.

May 15, 1943—Twenty-fifth anniversary of first regular official air mail service observed at Washington National Airport under auspices of Civil Aeronautics Administration.

Mail, Express Use Growing

Proof of the ever increasing use of air mail and air express is furnished by the report of a typical air carrier, TWA, that its express pound miles flown in February 1943, showed a better than 80 percent increase over the same month in 1942, and that for the same period its mail poundage had increased well over 100 percent.

Low Flying is a Form of Suicide Cautions CAB Safety Bureau

Too much cannot be said or written regarding unnecessary reckless and show-off flying which continues to be one of the greatest single factors causing serious and fatal accidents, the CAB Safety Bureau concludes in summing up the accidents caused by low flying in 1942. The report deals strictly with unnecessary low flying, serving no useful purpose whatsoever except an imaginary thrill to the pilot.

Of the 225 serious and fatal accidents last year, 54 were directly or indirectly the result of low flying. Ninety-one persons were seriously or fatally injured, 46 of the aircraft were completely wrecked, while 8 received major overhaul damage.

How They Happen

Here are a few causes which reflect a cross-section of these foolish and needless accidents.

A student decided to dive to the ground and zoom up simply to thrill his passenger. The aircraft zoomed to an altitude of about 150 feet, was stalled, made one-half turn of a spin, hit the ground, and was demolished by impact and fire.

A private pilot with a passenger had been circling over a farm house, waving to friends. After three turns of a descending spiral, the aircraft was stalled at an altitude of about 300 feet and struck the ground before recovery was effected.

A commercial pilot dived at an automobile, missing it by only about 10 feet. He was unable to pull the aircraft out of the dive before it struck the ground.

A student pilot, who was flying low, dived at an automobile and during recovery collided with high-tension wires.

These 4 accidents accounted for 7 lives and 4 airplanes completely wrecked. The balance of the 54 accidents would read about the same and have about the same unnecessary probable causes and contributing factors.

Collision with an object on the ground while executing a steep turn and zoom is a logical consequence when an aircraft is recklessly flown at an extremely low altitude. At such low altitudes any small, blind angle of the aircraft may prevent the pilot from observing obstacles directly in line of flight. When the pilot's attention is fixed upon given objects on the ground, such as a group of admiring friends, it is easy to understand how he "hit trees or wires" or "stalled his plane on top of a zoom."

Beginners Show Off

Complete investigation invariably discloses that the pilot's low flying was performed with complete disregard to consequences and lack of experience. More than 88 percent of all of these accidents involved pilots having less than 300 flying hours.

Thirty-nine of the planes were in the low-horsepower classification; that is, aircraft of less than 65 horsepower. The folly of attempting show-off flying and low acrobatics in an airplane of low horsepower, not specifically designed for trick flying, should be apparent to every student and pilot, the Safety Bureau points out.

While low flying is strictly prohibited by the Civil Air Regulations, it is obviously not possible to police the entire United States. Pilots and instructors must cooperate.

CAR's Have Purpose

The most frequent violations of the Civil Air Regulations include the following:

CAR 60.3503—Flying below 500 feet.
CAR 60.701(b)—Low acrobatics, less than 1,500 feet.
CAR 60.71—Acrobatics while carrying passengers.
CAR 60.72—Acrobatics without parachutes.
CAR 20.720—Student carrying other than certificated instructor.

These air traffic rules are fundamental to safety in flight and are based upon complete analyses and studies of past and present flying experience. The minimum safe altitudes specified for flight are intended to prohibit unnecessary low acrobatics and low flying.

Low flying is admittedly difficult to control, and persistent effort is required to curtail it. The immediate problem is to prevent pilots from becoming victims of their own folly. The fact that one out of every five serious or fatal accidents resulted from low flying should be conclusive proof that the altitude requirements of the Civil Air Regulations are to be strictly complied with and should not be intentionally violated.

Instructors, operators, and airport managers are urged to place a still greater emphasis on the danger of low flying in helping to reduce these preventable accidents. Remind students, says the Safety Bureau, that the remark: "I'd rather be the oldest pilot than the boldest," is still in order for all phases of civil flying.

CAA War Work

A booklet which outlines CAA's transformation from a peace-time into a wartime organization is available upon request from the CAA Correspondence Section, Washington, D. C. The booklet shows how the development of civil airways, airports, air training, and air science under the CAA's leadership has been a valuable aid to the prosecution of the war.

Seven Fatalities For 3rd Month In a Row

During the month of March 1943, reports of seven fatal accidents in non-air carrier flying were received by the Safety Bureau. Investigation was completed on three accidents which occurred as follows:

1. The pilot took off with a fully loaded plane and in an effort to avoid collision with telephone wires across his line of take-off he stalled the plane into them. The right wing severed 14 wires and the plane fell to the ground in an inverted position and was destroyed by impact and fire.

2. During flight, pilot experienced partial engine failure caused by loss of oil, and in attempting an emergency landing, a left turn was made at 200 feet and the aircraft dived nearly vertically to the ground, striking nose first.

3. At an altitude of 500 feet, power plant malfunction was experienced and a forced landing in water resulted. The pilot died of exposure.

Investigation reports on the four other fatal accidents have not yet been received but limited preliminary information indicates the following circumstances:

1. Collision with power lines.
2. Crop dusting operations.
3. Test flight.
4. Dual instructional flight.

Taxying Accidents 60% Carelessness

Carelessness was found to be the outstanding cause of taxying accidents in a study made by the Safety Bureau for 1941.

The 257 taxying accidents caused only one fatality and one serious injury, but they were hard on aircraft. Of the 329 aircraft involved, four were washed-out, 12 had to be overhauled and 236 required major assembly repairs.

Instructors are in part responsible for these taxying accidents in neglecting to give proper emphasis to this phase of flight instruction, the report concludes. Pilots with less than 100 hours' flying experience figured in half of the taxying accidents, and about 50 percent of the accidents occurred during instructional operations in which light aircraft were used.

The complete report of taxying accidents in non-air carrier flying for 1941 may be obtained from the CAA Publications and Statistics Division, Washington, D. C.

CAB Annual Report

The annual report of the Civil Aeronautics Board for 1942 is on sale at the Superintendent of Documents, Government Printing Office, for 30 cents a copy. The report contains 42 pages and includes maps. The classification number is C31.201 : 942.

Cross Section of Airplane Accidents . . .

Confused Take-off Injures Four Persons

Instructor James Oden Gilmore and three Civilian Pilot Training students, Alfred Bailey Phillips, Jr., Preston E. Wiggins, and Julian Barton Bennett, were seriously injured in an accident which occurred adjacent to Chapman Field, Cutler, Fla., October 19, 1942. Gilmore held a commercial pilot certificate with single-engine 0-330 h. p. land and flight instructor ratings. He had logged approximately 476 hours of flight time, about 174 of which were in the type airplane involved. Phillips held a private pilot certificate with a single-engine 0-80 h. p. land rating and had flown approximately 35 hours. Wiggins and Bennett held student pilot certificates. The aircraft, a Stinson SR-8B, was demolished. It was powered by a Lycoming 245 h. p. engine, equipped with a Hamilton Standard controllable pitch metal propeller.

Instructor Gilmore was properly cleared for a cross-country training flight with three students in the Civilian Pilot Training secondary course. He occupied the left front seat, and Phillips the right front seat, while Bennett and Wiggins occupied the double seat in the rear. When the plane, with Phillips handling the controls, reached a point between 400 and 500 feet from the start of the take-off run, the wheels struck two successive bumps in the runway. The aircraft bounced into the air 3 or 4 feet just before becoming airborne and was allowed to nose down at an angle sufficiently steep to allow the propeller tips to strike the runway. Gilmore and his students heard a noise described as resembling an object being drawn into the revolving blades of an electric fan or the escaping air from a blown-out tire. Instructor Gilmore immediately took over the controls and throttled back about 200 revolutions. Believing he had used up too much of the runway to stop before rolling into the canal adjacent to the field, he decided to complete the take-off and return to the airport. He started a shallow turn to the right at an altitude of about 200 feet. When approximately 120° of this turn had been completed, the aircraft was stalled, fell off into a left spin, and crashed on its nose in a marshy mangrove thicket.

Examination of the wreckage indicated that approximately 1 inch of each propeller blade tip was folded rearward approximately 180°, the diameter of the fold being about ½ inch. This was apparently caused when the revolving propeller tips struck the coral surface of the runway during the take-off.

It seems logical to assume that even after the propeller tips had struck the runway there was no excuse for the accident had the aircraft been properly controlled. When the instructor-pilot decided to continue the take-off after the mishap to the propeller, there was still available more than 1,500 feet of runway in which to safely discontinue the take-off. It therefore appears that Instructor Gilmore stalled the airplane after becoming confused or excited over the incident and because of the unfamiliar noise of the propeller.

Probable cause—A stall at an altitude too low to effect recovery.

Contributing factors—1. Poor judgment of instructor in continuing take-off. 2. Failure of the instructor to correct the student's improper technique during the take-off.

Pilot Builds Glider Crashes in Same

Horace K. Hicks was seriously injured in an accident which occurred about 5 miles north of Springfield, Mo., July 17, 1942. Neither he nor the Bowlus Baby Albatross glider he was flying was certificated. The glider, owned by Hicks, was extensively damaged.

On the morning of July 17, Hicks drove to a farm about 5 miles north of Springfield for the purpose of testing his glider which he had recently repaired. John S. Goodrich, a friend of Hicks, arrived at the field and assisted the pilot by operating the tow car. The glider was placed in position and a tow line was attached to a winch which was mounted on the rear of the car. After an unsuccessful attempt to take off, the glider was again placed in position and it was decided to make another take-off run with the towing speed increased by 5 m.p.h. During this run the glider left the ground and was lifted by a gust of wind to a height estimated to have been between 50 and 100 feet. The pilot started a left turn, without releasing his tow line, during which he lost altitude rapidly, and the glider struck the ground on the left wing and nose.

Goodrich stated that in examining the wreckage he found the broken end of the tow cable a few feet from the nose of the fuselage, and about 250 feet of cable, which had broken, wrapped around the left wing and caught between the aileron and the wing. He did not know whether the cable had snapped and recoiled back over the wing or had been picked up by the wing during the turn. The pilot stated, "During this second attempt I suddenly was raised into the air by a gust of wind. Before I could release the cord I was about 100 feet high. I attempted to make a 180° left turn and had almost completed this maneuver when the glider crashed on its nose." Questioning of Hicks revealed that he had learned to fly without instruction. He claimed to have made over 200 flights in the subject glider which he had built from blueprints.

Hicks had had a previous accident in this same glider on March 22, 1942. Since he was an uncertificated pilot flying an uncertificated glider from an undesignated field, a fine of $50 was levied against him by the Civil Aeronautics Administration. Hicks admitted that three days prior to the accident of July 17 he had received notice of this fine and had been ordered to dismantle and store the glider.

Probable cause.—Failure of the pilot to release the tow line.

Low Flying Plane Strikes Pedestrian

Ernest Scott, a pedestrian, was seriously injured when he was struck by an airplane on Highway No. 30, at Morganza, La., September 8, 1942. Frederick Samuel Kornbacher, the pilot of the aircraft involved, held a student pilot certificate and had flown about 26 hours. He was not injured. The aircraft, an Aeronca 65TL, was extensively damaged.

Kornbacher received clearance from the Municipal Airport, Alexandria, La., for a cross-country solo practice flight to Baton Rouge, La., about 95 miles distant. He made the trip and was on the return flight when the plane was observed flying low over Morganza, circling the home of the pilot's parents. While heading south over Highway No. 30, the aircraft struck a newly constructed power line, approximately 35 feet in height, directly in front of the home of Kornbacher's parents, and pancaked to a landing on the highway, 1,500 feet beyond. Immediately after the wheels contacted the road, the left wing tip struck Scott, who was walking along the highway. The plane veered to the left about 45°, left the highway, and ran through a wire fence. It came to a stop against a garage and a telephone pole on the Plauché Hospital grounds.

Kornbacher stated that while flying through rain his engine started to sputter and lose power and that he was investigating the possibility of making a forced landing on the highway when he struck the power line. He failed to state that this power line was directly in front of his parents' home. The pilot stated further that he left the highway to avoid hitting an approaching automobile. According to witnesses, there was no automobile on the highway in the vicinity when the accident occurred and the real reason for the plane leaving the highway was the left wing striking a pedestrian.

Examination of the wreckage revealed no indication of mechanical failure of the aircraft or engine. The blades of the wooden propeller were broken off close to the hub, in a manner which indicated that considerable power was being developed at the time of impact with the garage wall.

Probable cause—Failure to avoid a power line while flying at an extremely low altitude.

(See Accidents, page 72)

CAA Trains Army Officers In Flight Control

The Civil Aeronautics Administration has started training courses for Army Flight Control Officers. The first class of 27 commissioned officers of the Flight Control Command, U. S. Air Forces, got underway March 15. Another class of 60 officers started training April 26. These are the first of around 300 officers who will be given such training.

Both classes are being conducted in the New York Air Traffic Control Training Center. It is planned to start training of additional classes of officers in the other six centers located at Atlanta, Ga.; Chicago, Ill.; Fort Worth, Tex.; Kansas City Mo.; Santa Monica, Calif.; and Seattle, Wash.

Direct Army Flights

The training will qualify the graduates to act as Army Air Forces Flight Control Officers, whose duty it will be to keep a 24-hour watch on all military air traffic flying in the navigable airspace of the United States. A constant check will be kept on the progress of each military flight, and when an Army Flight Control Officer anticipates, through weather forecasts and pilots' weather reports, that the weather at the flight's destination will be too bad for the flight to land, he will then send the aircraft to some other field where the weather conditions are good enough for safe landing.

The Flight Control Officers will also see that all Army pilots conform to the air traffic rules of both the U. S. Army and the CAA.

This training of military personnel is a continuation of a series of training programs which have been conducted at the specific request of the War and Navy Departments and is in addition to the training of CAA personnel.

Civilian Training

The training of personnel to meet the constantly expanding Air Traffic Control Service has, since 1941, been a continuing problem. Prior to November 1, 1941, trainees were selected from various fields closely associated with aviation and were chosen according to their aeronautical background. These trainees were entered directly into the towers and centers and their training was dependent on the controllers already on the job in an active capacity.

With the increase of air traffic, however, some other means had to be devised to train the new personnel. The controllers no longer had the time to divide their attention between the handling of the tremendously increased air traffic and the training of the new people.

School Started in 1941

When the second region was assigned the task of taking over a number of airport traffic control towers, the ensuing

Trainees learn how to plot movements of aircraft

demand for trained personnel in this region made it necessary to establish the school.

The first classes were started in the Atlanta Air Traffic Control Training Center on November 1, 1941.

From July 1, 1942, to April 1, 1943, the Air Traffic Control Division has trained a total of approximately 1,250 air traffic controllers and a very large number of both Army and Navy men. It is anticipated that an even greater number will be trained during the balance of 1943 and 1944.

New Board Consultant On Aviation Insurance

Dr. S. Stephen Huebner is now acting as a special consultant to the Civil Aeronautics Board in the study of aviation insurance. Dr. Huebner is a member of the War Department's Insurance Advisory Committee and a member of the faculty of the Wharton School of Finance, University of Pennsylvania.

The Board said that the result of Dr. Huebner's study will be useful in connection with formulating recommendations for improvement of aviation insurance.

Dr. Huebner has previously served as an insurance consultant to the Committee on Merchant Marine and Fisheries, U. S. House of Representatives, and has also served as an expert on Marine Insurance for the United States Shipping Board. (Apropos of Dr. Huebner's appointment, it should be remembered that the Board has taken a far-sighted interest in the study of insurance. June 1, 1941, the Board issued, for the purpose of inviting comment, a report of a study of proposed aviation liability legislation. The printed report was over 500 pages in length and was the result of an exhaustive survey conducted by a member of the Board's staff, Mr. Edward C. Sweeney. Mr. Sweeney has since entered military service.)

The Earth Is Shrinking

Last month an American-made bomber aircraft of the Royal Air Force crossed the North Atlantic in 6 hours and 20 minutes.

Stronger Control Of Air Space By the IATCB

Stronger control by the Interdepartmental Air Traffic Control Board over use of navigable air space is seen in the President's approval of a reorganization procedure.

The Departments of War, Navy, and Commerce, and the Civil Aeronautics Board are represented on the air traffic control group, which was established in 1941 to eliminate conflicts arising from military, naval, civil, and other uses of the air space and aviation facilities within continental United States.

The IATCB has headquarters in Washington, with subcommittees functioning in New York, Chicago, Los Angeles, Seattle, Forth Worth, and Jacksonville.

Under terms of a memorandum submitted to the President, the four agencies agree to clear through the IATCB the following items:

(1) Any proposed construction by the agencies which extends more than 150 feet above ground level, or more than 10 feet for each 400 feet of its distance from the nearest landing area.

(2) Any construction which calls for the restriction of aircraft flight above it or which interferes with the use of any established ground aviation facilities.

(3) Any regulation restricting use of air space, except emergency defense regulations for periods not longer than one week.

(4) Establishment, relocation, or modification of any civil or military airway or aid to navigation.

(5) Any airport construction project of the Airport Approval Board (War-Navy-Commerce).

(6) Any designation by the CAA of a landing area as approved for use under security regulations, or for use by an airline under terms of its operating certificate.

Although the IATCB is given formal control of use of air space and aviation facilities only by the four agencies represented, it has enjoyed the cooperation of other Federal agencies, including Defense Plants Corporation, which checks with the Board's proposed sites of new war industries, and the Federal Communications Commission, which seeks its advice on location of radio facilities. Local aviation interests have also worked closely with the Control Board.

Recent significant actions initiated by the IATCB, according to Chairman Ward, are the reduction of the width of Federal Airways to 10 miles upon agreement of the armed services to keep training flights out of that band, and granting of permission to make flight of individual aircraft in daylight at any altitude under "contact rules" (when the ground is visible), without flight plan approval.

Domestic Air Carrier Operation Statistics for the Month of February, 1943

Operator	Routes operated	Revenue miles flown	Revenue passengers carried	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
All American Aviation, Inc	Pittsburgh-Huntington, Philadelphia, Williamsport, Jamestown, etc.	82,053	0	0	4,892	653,323	0	
American Airlines, Inc	Dallas-Los Angeles	562,865	11,697	9,657,044	160,089	161,305,907	10,969,261	88.04
	New York-Chicago	361,768	13,318	5,015,206	520,331	241,756,647	6,476,974	77.43
	Boston-New York	91,639	8,600	1,465,038	152,324	26,918,577	1,838,869	79.67
	Boston-Cleveland	14,775	1,082	160,480	19,376	3,153,283	301,851	53.17
	Cleveland-Nashville	56,104	4,198	905,663	64,491	16,140,549	1,158,460	78.18
	New York-Fort Worth	525,946	14,176	8,572,407	230,669	137,260,877	9,884,301	86.73
	Washington-Chicago	152,864	4,992	2,151,991	109,155	40,254,789	2,710,489	79.39
	Chicago-Fort Worth	105,112	3,770	1,740,452	68,987	45,773,893	2,075,095	83.87
	Buffalo-Toronto	2,978	254	20,080	2,207	167,732	58,464	34.35
	El Paso or Fort Worth-Mexico City	121,063	1,312	1,279,695	4,973	4,488,576	2,128,986	60.11
	Total	1,995,114	63,399	30,968,056	1,332,602	677,220,830	37,602,750	82.36
Braniff Airways, Inc	Chicago-Dallas	181,110	5,094	2,777,734	67,241	38,259,497	3,025,682	91.81
	Dallas-Brownsville	122,250	7,269	1,802,568	29,588	8,136,473	2,139,819	84.24
	Total	303,360	12,363	4,580,302	96,829	46,395,970	5,165,501	88.67
Chicago & Southern Air Lines, Inc	Chicago-New Orleans	143,366	5,377	2,155,284	50,948	24,278,521	2,687,724	80.19
	Memphis-Houston	29,375	972	343,754	8,714	3,897,428	513,036	67.00
	Total	172,741	6,349	2,499,038	59,662	28,175,949	3,200,760	78.08
Continental Air Lines, Inc	Denver-El Paso	84,338	2,732	822,943	7,033	2,195,466	954,037	86.26
	Pueblo-Tulsa	35,694	1,170	269,250	2,547	487,104	378,794	71.08
	Total	120,032	3,902	1,092,193	9,580	2,682,570	1,332,831	81.95
Delta Air Corp	Charleston & Savannah-Fort Worth	116,959	5,559	2,211,957	24,106	9,549,870	2,469,684	89.56
	Atlanta-Cincinnati	42,381	2,116	750,056	14,430	4,671,386	887,166	84.55
	Total	159,340	7,675	2,962,013	38,536	14,221,256	3,356,850	88.24
Eastern Air Lines, Inc	New York-Brownsville & San Antonio.	390,483	11,625	6,603,253	110,611	60,893,694	7,814,745	84.50
	New York-Miami	471,094	11,756	7,039,553	141,823	118,131,201	8,057,643	87.36
	Chicago-Jacksonville	158,650	6,117	2,712,302	66,014	31,558,670	3,040,061	89.22
	Atlanta-Tampa	24,407	1,255	446,228	8,032	3,228,563	512,547	87.06
	Total	1,044,634	30,753	16,801,336	326,480	213,812,128	19,424,996	86.49
Inland Air Lines, Inc	Denver-Great Falls	37,407	809	269,241	3,258	796,654	447,783	60.13
	Cheyenne-Huron	22,436	0	0	10	5,760	0	
	Total	59,843	809	269,241	3,268	802,414	447,783	20.13
Mid-Continent Airlines, Inc	Minneapolis-Tulsa	58,132	1,658	469,307	8,732	1,817,039	732,231	64.09
	Minneapolis-St. Louis	30,138	0	0	722	268,718	0	
	Total	88,270	1,658	469,307	9,454	2,085,757	732,231	64.09
National Airlines, Inc	Jacksonville-Miami	45,192	2,368	555,345	7,097	1,531,796	632,688	87.78
	Jacksonville-New Orleans	76,566	2,600	954,893	8,801	3,311,192	1,071,924	89.08
	Total	121,758	4,968	1,510,238	15,898	4,842,988	1,704,612	88.60
Northeast Airlines, Inc	Boston-Presque Isle & Moncton	24,488	1,099	250,248	4,359	881,995	510,660	49.00
Northwest Airlines, Inc	Chicago-Seattle	273,024	6,038	2,989,793	99,882	69,578,686	4,211,990	70.98
	Minneapolis-Duluth	5,434	0	0	237	33,891	0	
	Total	278,458	6,038	2,989,793	100,119	69,612,577	4,211,990	70.98
Pennsylvania-Central Airlines Corp.	Norfolk-Detroit	153,890	12,516	2,630,250	215,401	41,850,177	3,175,222	82.84
	Detroit-Milwaukee	12,656	666	110,740	4,638	750,560	263,865	41.97
	Pittsburgh-Buffalo	12,396	634	127,080	5,917	968,376	260,316	48.82
	Pittsburgh-Birmingham	35,892	1,165	396,568	4,030	1,496,906	748,095	53.01
	Total	214,834	14,981	3,264,638	229,986	45,066,019	4,447,498	73.40
Transcontinental & Western Air, Inc.	New York-Los Angeles	866,739	18,164	11,156,741	410,029	289,343,545	13,791,376	80.90
	Dayton-Chicago	13,156	923	216,441	25,863	5,248,591	257,376	84.10
	Boulder City-San Francisco	26,377	605	231,974	430	258,774	475,925	48.74
	Kansas City-Chicago & Pittsburgh	256,511	5,982	3,182,884	144,519	79,148,266	3,645,646	87.31
	St. Louis-Detroit	48,446	3,037	699,942	48,709	13,254,687	855,794	81.79
	Total	1,211,229	28,711	15,487,982	629,550	387,253,863	19,026,117	81.40
United Air Lines Transport Corp	New York-San Francisco	1,132,468	17,554	14,444,123	546,172	450,122,850	17,348,529	83.26
	Salt Lake-Seattle	93,131	2,290	1,605,337	22,129	15,157,321	1,868,901	85.90
	Los Angeles-Seattle	340,215	15,229	6,163,306	106,912	46,832,783	6,614,813	93.17
	Seattle-Vancouver	4,708	319	42,678	1,845	212,418	89,647	47.61
	Total	1,570,522	35,392	22,255,444	677,058	512,325,372	25,921,890	85.86
Western Air Lines, Inc	San Diego-Salt Lake City	112,358	4,566	1,668,740	76,564	17,102,734	2,130,624	78.32
	Salt Lake City-Great Falls	22,287	512	193,037	1,991	262,493	313,287	61.62
	Great Falls-Lethbridge	4,144	122	14,637	1,839	163,108	64,946	22.54
	Total	138,789	5,200	1,876,414	80,394	17,528,335	2,508,857	78.76
	Grand Total	7,585,465	223,297	107,276,243	3,618,667	2,023,561,346	129,595,36	82.78

Passengers carried (total revenue and nonrevenue) 233,049. Passenger miles flown (total revenue and nonrevenue) 110,982,551.

Domestic Air Carrier Operation Statistics for the First 2 Months of 1943 Compared with the Same Period of 1942

Operator	Revenue miles flown January–February		Revenue passengers carried January–February		Revenue passenger miles flown January–February		Express carried (pounds) January–February	
	1943	1942	1943	1942	1943	1942	1943	1942
All American Aviation, Inc	149, 501	127, 438	0	0	0	0	9, 345	5, 374
American Airlines, Inc	3, 999, 770	5, 037, 592	120, 783	171, 395	60, 025, 926	60, 213, 691	2, 556, 798	1, 307, 447
Braniff Airways, Inc	595, 851	960, 299	24, 052	24, 910	8, 684, 390	7, 497, 950	199, 921	129, 774
Catalina Air Transport	0	13, 244	0	3, 121	0	93, 630	0	23, 717
Chicago & Southern Air Lines, Inc	336, 629	383, 760	12, 126	9, 340	4, 772, 861	3, 360, 117	115, 192	55, 696
Continental Air Lines, Inc	246, 991	318, 900	7, 790	4, 427	2, 189, 805	1, 092, 503	18, 050	9, 202
Delta Air Corp	324, 233	489, 684	15, 303	15, 893	5, 850, 023	4, 437, 394	75, 677	33, 552
Eastern Air Lines, Inc	2, 041, 447	3, 586, 215	58, 310	95, 309	31, 514, 944	40, 591, 684	642, 216	499, 347
Inland Air Lines, Inc	127, 921	229, 803	1, 664	1, 446	570, 723	359, 069	5, 845	2, 098
Mid-Continent Airlines	177, 543	376, 899	3, 234	5, 150	939, 202	1, 308, 850	17, 628	12, 063
National Airlines, Inc	267, 334	260, 141	10, 346	7, 583	3, 131, 482	2, 022, 032	33, 402	23, 810
Northeast Airlines, Inc	69, 808	181, 890	2, 412	5, 563	575, 453	952, 080	6, 871	8, 715
Northwest Airlines, Inc	558, 944	907, 804	11, 209	15, 412	5, 602, 646	6, 243, 154	225, 643	117, 018
Pennsylvania-Central Airlines Corp	397, 437	1, 008, 026	26, 083	49, 041	5, 663, 224	9, 748, 377	403, 272	371, 675
Transcontinental & Western Air, Inc	2, 378, 263	2, 910, 857	53, 235	55, 391	29, 237, 973	25, 066, 483	1, 370, 059	758, 034
United Air Lines Transport Corp	3, 173, 873	3, 850, 184	66, 694	69, 235	42, 695, 128	33, 799, 173	1, 399, 274	1, 200, 589
Western Air Express, Inc	248, 180	462, 929	8, 944	9, 980	3, 330, 194	2, 881, 879	139, 225	142, 594
Total	15, 093, 725	21, 105, 665	422, 185	543, 196	204, 783, 974	199, 668, 066	7, 218, 418	4, 700, 705
Index (1942=100)	71. 52	100. 00	77. 72	100. 00	102. 56	100. 00	153. 56	100. 00

Operator	Express pound miles flown January–February		Passenger seat-miles flown January–February		Revenue passenger load factor (percent) January–February	
	1943	1942	1943	1942	1943	1942
All American Aviation, Inc	1, 213, 138	463, 143	0	0		
American Airlines, Inc	1, 303, 450, 735	668, 916, 880	75, 597, 955	95, 445, 615	79. 40	63. 09
Braniff Airways, Inc	92, 420, 066	55, 681, 112	10, 038, 335	15, 934, 437	86. 51	47. 06
Catalina Air Transport	0	711, 510	0	145, 200	0	64. 48
Chicago & Southern Air Lines, Inc	51, 334, 800	23, 633, 854	6, 609, 254	8, 000, 106	72. 21	42. 00
Continental Air Lines, Inc	5, 136, 752	2, 649, 864	2, 721, 060	3, 202, 929	80. 48	34. 11
Delta Air Corp	28, 297, 787	11, 472, 374	6, 837, 624	8, 135, 500	85. 56	54. 54
Eastern Air Lines, Inc	414, 728, 139	297, 866, 864	37, 988, 016	70, 297, 369	82. 96	57. 74
Inland Air Lines, Inc	1, 239, 135	608, 228	986, 423	2, 122, 210	57. 86	16. 92
Mid-Continent Airlines	3, 865, 739	2, 806, 383	1, 506, 326	4, 201, 416	62. 35	31. 15
National Airlines, Inc	10, 124, 888	5, 364, 158	3, 742, 680	3, 438, 700	83. 67	58. 80
Northeast Airlines, Inc	1, 417, 308	1, 573, 673	1, 466, 580	3, 885, 414	39. 24	24. 50
Northwest Airlines, Inc	154, 923, 271	93, 437, 130	8, 144, 493	14, 522, 337	68. 79	42. 99
Pennsylvania-Central Airlines Corp	75, 995, 653	77, 552, 153	8, 218, 507	20, 208, 106	68. 91	48. 24
Transcontinental & Western Air, Inc	853, 533, 627	497, 545, 570	36, 851, 830	50, 808, 379	79. 34	49. 34
United Air Lines Transport Corp	1, 076, 874, 540	953, 283, 988	51, 292, 779	54, 047, 367	83. 24	62. 54
Western Air Express, Inc	44, 183, 934	64, 552, 201	4, 350, 546	7, 189, 691	76. 55	40. 08
Total	4, 118, 739, 572	2, 758, 119, 085	256, 352, 408	361, 584, 776	79. 88	55. 22
Index (1942=100)	149. 33	100. 00	70. 90	100. 00	144. 66	100. 00

	January	February	Total		January	February	Total
Passengers carried (total revenue and nonrevenue)	208, 380	233, 049	441, 429	Passenger miles flown (total revenue and nonrevenue)	101, 410, 602	110, 982, 551	212, 393, 153

Aeronautical Legislation

Given here are measures concerning aeronautics which are pending before or have been passed by Congress.

Introduced

H. J. Res. 108—AIR MAIL ANNIVERSARY; Resolution introduced by Mr. Lea commemorating May 15, 1943, as the anniversary of the inauguration of Air Mail Service. Referred to the Committee on Interstate and Foreign Commerce.

H. R. 1670—AMENDMENT; Submitted by Mr. Wiley to amend section 2 of the Civilian Pilot Training Act of 1939. Referred to the Committee on Commerce.

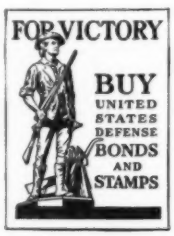
S. 1036—AMENDMENT; Introduced in Senate, bill to amend section 2 of the Civilian Pilot Training Act of 1939. Referred to the Committee on Commerce.

Passed

H. J. Res. 115—APPROPRIATIONS: Bill to supply urgent deficiencies in certain appropriations for 1943. The item for War Training Service, Office of the Administrator of Civil Aeronautics, was agreed upon. Conferees were appointed on the bill.

Test Recorder Developed

Aeronautical engineers have perfected a "flight recorder" instrument which electrically computes and records data on new types of aircraft to speed their testing and simplify the pilot's hazardous job.



New Models Added to Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

Appliances

Heath, plywood floats, model 2100. Approved maximum standard airplane standard weight: 2,210 pounds (American requirements), 2,100 pounds (Canadian requirements). (Type certificate No. 145, April 21, 1943.)

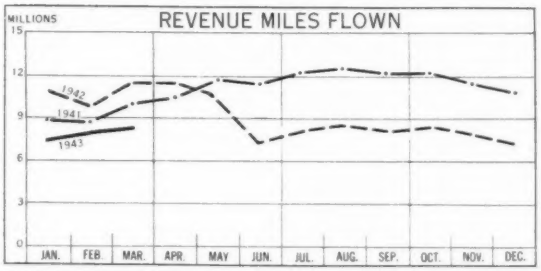
Engines

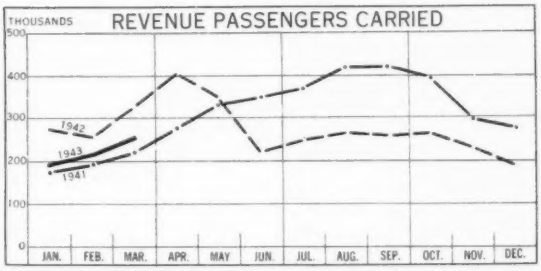
Continental, W670–6N; 7-cylinder radial air-cooled; 220 hp at 2,075 rpm at sea level pressure altitude for all operations. Dry weight 470 pounds. (Type certificate No. 162, April 9, 1943.)

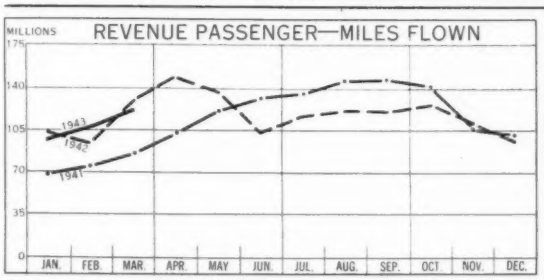
Army Uses CAA Experts

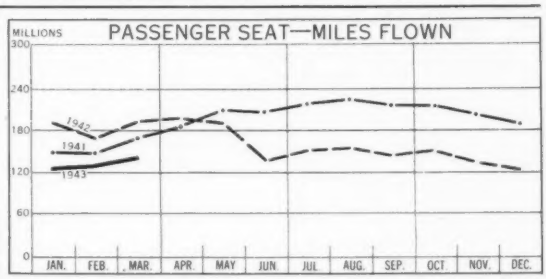
Crews of expert CAA technicians are building airways for the Army Air Forces in foreign lands.

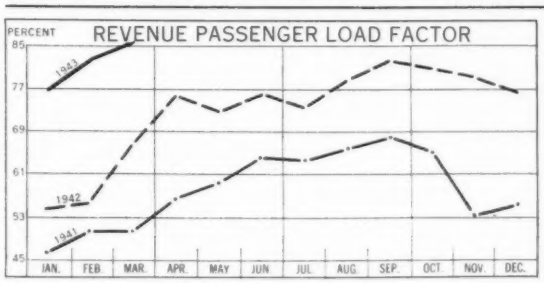
Comparative Charts of Domestic Operations for 1941, 1942, and the First 3 Months of 1943

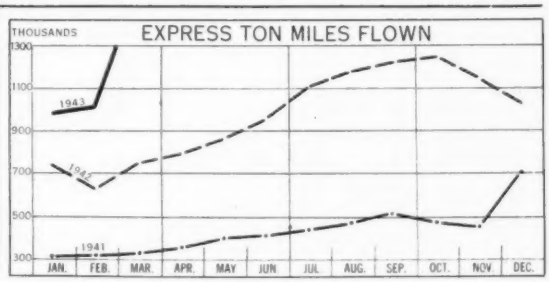












Airlines

(*Continued from page 57*)

Amsterdam (Holland), Copenhagen (Denmark), Stockholm (Sweden), and Leningrad (Russia) as the points en route.

The airline proposes to make Glasgow (Scotland) another stopping place by way of Newfoundland, Reykjavik (Iceland) and the Faroe Islands, with London as the terminal city.

Prague in Czechoslovakia is also on the proposed itinerary by way of Reykjavik, the Faroe Islands, Oslo (Norway) and Copenhagen.

Chicago to Java

In a more recent application Chicago & Southern Air Lines has applied for a route between Chicago and Batavia, Java. Stopping points on the proposed route are Winnipeg, Edmonton, and White Horse (Canada), Fairbanks, and Nome (Alaska), and such intriguing names as Kamenskoe, Nikolaevska, and Vladivostok (Russia), Keijo (Korea), Shanghai and Canton (China), Saigon (French Indo-China) and Singapore (Malay).

These applications are on file with the Civil Aeronautics Board waiting decision as to whether or not Northwest, Northeast, and Chicago & Southern will be granted certificates for carrying mail, passengers, and property over their proposed Pacific and Atlantic routes in the post-war expansion of air traffic.

Opinions Available

The following Civil Aeronautics Board Opinions of Volume 3 are now available in printed form as advance sheets prior to their inclusion in a bound volume:

Opinion No. 45, "Pan American-Grace Airways, Inc.—Service to Ipiales and Antofagasta Cutoff"; Docket No. 742.

Opinion No. 46, "Alaska Air Lines, Inc., et al.—Service to Anchorage, Alaska"; Docket No. 405.

Opinion No. 47, "Transcontinental & Western Air, Inc.—Transportation of Mail on Marquette Route"; Docket No. 704.

Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents each. When ordering, include the opinion serial number and the docket number as well as the opinion title.

Traffic Control

(*Continued from page 57*)

In commenting on the Air Traffic Control Study, C. I. Stanton, Administrator of Civil Aeronautics stated that he hoped "the study will serve to focus the attention of as many people as possible on this important phase of aeronautics to the end that the Civil Aeronautics Administration's air traffic control service will continue to develop along the lines which will best meet the needs of the users of the service."

New Company Proposed

Two businessmen, Abe B. Cohen and Wilbert G. Burnette, in Lynchburg, Va., have applied to the Board for a certificate to operate an airline service out of Lynchburg. They propose to organize a company which would be called the Virginia Central Airlines, Inc.

In the plans they've drawn up for putting Virginia on the air map, the service would operate out of Lynchburg north to New York; south to Atlanta, Ga., and Mobile, Ala.; southwest to Cincinnati, Ohio; east to Norfolk, Va., and west to Chicago.

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

ORDERS

ORDER No. 2210 ..... *April 2, 1943*
Revoked student pilot certificate held by Stephen F. Nagy for certain violations of the Civil Air Regulations.

ORDER No. 2211 ..... *April 2, 1943*
Approved interlocking relationships in the matter of the applications of Russell L. Snodgrass and Railway Express Agency, Inc.; superseded Order Serial No. 2088, dated Dec. 28, 1942.

ORDER No. 2212 ..... *April 7, 1943*
Limited time for filing exceptions in the matter of Samuel B. White.

ORDER No. 2213 ..... *April 7, 1943*
Revised approval of interlocking relationships in the matter of the applications of V. P. Conroy and Transcontinental & Western Air, Inc.; superseded Order, Serial No. 1943, dated Sept. 18, 1942.

ORDER No. 2214 ..... *April 7, 1943*
Granted permission to Pan American Airways, Inc. to use Gallion Field so as to serve Cayenne, French Guiana.

ORDER No. 2215 ..... *April 7, 1943*
Granted permission to Pan American Airways, Inc., to use New Orleans Municipal Airport so as to serve New Orleans, La.

ORDER No. 2216 ..... *April 8, 1943*
Limited for 90 days commercial pilot certificate held by Roger D. Shook to piloting civil aircraft only while under the direction or supervision of the Department of War.

ORDER No. 2217 ..... *April 8, 1943*
Limited for 90 days commercial pilot certificate held by Arthur W. Beall, Jr. to piloting civil aircraft only while under the direction or supervision of the Department of War.

ORDER No. 2218 ..... *April 8, 1943*
Limited for 90 days commercial pilot certificate held by Warney L. Crosby to piloting civil aircraft only while under the direction or supervision of the Department of War.

ORDER No. 2219 ..... *April 8, 1943*
Withheld from public disclosure certain information in the matter of the application of Howard B. Dean and Pan American Airways, Inc., for approval of a certain interlocking relationship under sec. 409 of the Civil Aeronautics Act of 1938.

ORDER No. 2220 ..... *April 9, 1943*
Temporarily suspended private pilot certificate held by James G. Brown for certain violations of the Civil Air Regulations.

ORDER No. 2221 ..... *April 9, 1943*
Revoked student pilot certificate held by Ralph R. Connor for certain violations of the Civil Air Regulations.

ORDER No. 2222 ..... *April 9, 1943*
Denied petition of Robert L. Smith for waiver of a portion of Sec. 21.161 (b) of the Civil Air Regulations.

ORDER No. 2223 ..... *April 12, 1943*
Authorized taking of depositions in the matter of Rockcliffe M. Decker.

ORDER No. 2224 ..... *April 12, 1943*
Amended revocation Order, Serial No. 1970, dated Oct. 10, 1942, in the matter of Ronald A. Smith.

ORDER No. 2225 ..... *April 12, 1943*
Temporarily suspended commercial pilot certificate and revoked flight instructor rating held by Eugene James for certain violations of the Civil Air Regulations.

ORDER No. 2226 ..... *April 12, 1943*
Denied petition for waiver of Sec. 20.120 of the Civil Air Regulations and for issuance of a private pilot certificate to William W. Covington. (Opinion and order.)

ORDER No. 2227 ..... *April 12, 1943*
Assigned for oral argument proceeding in the matter of Samuel B. White, holder of mechanic certificate with parachute rigger rating and ground instructor certificate.

ORDER No. 2228 ..... *April 9, 1943*
Temporarily suspended student pilot certificate held by Everett J. Meyers for certain violations of the Civil Air Regulations. (Opinion and order.)

ORDER No. 2229 ..... *April 12, 1943*
Rescinded Order, dated Dec. 12, 1941, which has been held in a confidential status, so as to allow public disclosure of application and hearing of Pan American Airways Corporation for approval of the acquisition of control of Aeronaves de Mexico, S. A.

ORDER No. 2230 ..... *April 15, 1943*
Exempted Pan American Airways, Inc. from Sections 238.3 and 238.5 of the Economic Regulations and granted permission to them for expeditious use of Aniak Intermediate Field, Minchumina Intermediate Field, and Moses Point Commercial Field, so as to serve Aniak, Lake Minchumina, and Moses Point, Alaska.

ORDER No. 2231 ..... *April 16, 1943*
Temporarily granted exemption to all air carriers serving Omaha, Nebraska, from Sections 238.3 and 238.5 of the Economic Regulations.

ORDER No. 2232 ..... *April 17, 1943*
Approved interlocking relationships in the matter of the application of Howard B. Dean and Pan American Airways, Inc. under Sec. 409 (a) of the Civil Aeronautics Act.

ORDER No. 2233 ..... *April 19, 1943*
Partially rescinded that part of Orders Nos. 1811 and 1756 which authorized Mid-Continent Airlines, Inc. to temporarily suspend service with respect to persons on route No. 48 between Minneapolis-St. Paul, Minn., and St. Louis, Mo.

ORDER No. 2234 ..... *April 20, 1943*
Rescinded Order, Serial No. 2098, dated Jan. 5, 1943, which temporarily exempted Pan American Airways, Inc. from service between Seattle, Washington, Juneau, Alaska, and Whitehorse, Canada.

ORDER No. 2235 ..... *April 22, 1943*
Amended Order, Serial No. 2096, so as to authorize Eastern Air Lines, Inc., to suspend service temporarily at Baton Rouge, La., until May 15, 1943.

ORDER No. 2236 ..... *April 24, 1943*
Authorized George S. Schwamm, doing business as Petersburg Air Service, to suspend service temporarily on his regular routes in the Territory of Alaska between the terminal points Petersburg and Ketchikan; and between the terminal points Petersburg and Juneau; and on his irregular route between all points in the First Judicial Division of the Territory of Alaska; partially exempted him from the provisions of section 238.6 of the Economic Regulations.

ORDER No. 2237 ..... *April 24, 1943*
Authorized Pan American Airways, Inc., to suspend service from the date of this order until October 1, 1943, at Hot Springs, Kokrines, Ruby, Koyukuk, Nulato, and Golovin, on its route between the terminal points Fairbanks and Nome, Alaska; and at Medfra, Takotna, Ophir, Sleitmut, Crooked Creek, Napamute, Kalskag, and Akiak, on its route between the terminal points Fairbanks, and Bethel, Alaska.

ORDER No. 2238 ..... *April 26, 1943*
Approved interlocking relationships re applications of Edward G. Smith and Railway Express Agency, Inc.

ORDER No. 2239 ..... *April 27, 1943*
Approved interlocking relationships re application of John W. Hanes and Pan American Airways, Inc.

ORDER No. 2240 ..... *April 27, 1943*
Approved interlocking relationships re application of Paul R. Scott and National Airlines, Inc.

ORDER No. 2241 ..... *April 27, 1943*

Order severing and consolidating certain proceedings for purposes of hearing re the petition of various airlines for rate decisions.

ORDER No. 2242 ..... *April 27, 1943*

Approved agreement by and between Pan American Airways, Inc., and Panair Do Brasil, S. A., relating to the furnishing of certain services and facilities in the Republic of Brazil by Panair do Brasil, S. A., and outside of said Republic of Brazil by Pan American Airways, Inc.

ORDER No. 2243 ..... *April 27, 1943*

Approved agreement by and between Pan American Airways, Inc., and Cia Nacional Cubana de Aviacion, S. A., relating to the furnishing of certain services and facilities in the Republic of Cuba by Cia Nacional Cubana de Aviacion, S. A., and outside of said Republic of Cuba by Pan American Airways, Inc.

ORDER No. 2244 ..... *April 27, 1943*

Approved agreement by and between Pan American Airways, Inc., and Compania Mexicana de Aviacion, S. A., relating to the furnishing of certain services and facilities in the Republic of Mexico by the Compania Mexicana de Aviacion, S. A., and outside of said Republic of Mexico by Pan American Airways, Inc.

ORDER No. 2245 ..... *April 28, 1943*

Revoked student pilot certificate held by Andy Covic for certain violations of the Civil Air Regulations.

ORDER No. 2246 ..... *April 29, 1943*

Amended Order, Serial No. 2119, to show that William F. Gordon's student pilot certificate is No. 457582.

REGULATIONS

REGULATION No. 269 ..... *April 8, 1943*

AMENDMENT No. 1 OF SECTION 228.4 OF THE ECONOMIC REGULATIONS—ISSUANCE AND INTERCHANGE OF TICKETS AND PASSES FOR FREE OR REDUCED RATE TRANSPORTATION

Effective May 1, 1943, section 228.4 of the Economic Regulations is hereby amended in its entirety to read as follows:

SECTION 228.4 OF THE ECONOMIC REGULATIONS—FREE AND REDUCED-RATE TRANSPORTATION, SCOPE AND PRACTICES.

(a) *Definitions.* As used in this regulation, unless the context otherwise requires—

(1) "Carrier" means an air carrier or a foreign air carrier.

(2) An "affiliate" of a carrier means a person—

(i) who controls such carrier, or is controlled by such carrier or by another person who controls or is controlled by such carrier, and

(ii) whose principal business in purpose or in fact is—

(a) the holding of stock in one or more carriers, or

(b) schedules transportation by air or the sale of tickets therefor, or

(c) the operation of one or more airports, one or more of which is used by such carrier or by another carrier who controls or is controlled by such carrier or who is under common control with such carrier by another person, or

(d) activities devoted to the scheduled transportation by air conducted by such carrier or by another carrier who controls or is controlled by such carrier or who is under common control with such carrier by another person.

Within the meaning of this subparagraph, "control" means the beneficial ownership of more than 40 per centum of outstanding voting capital stock unless, as to the specific case, the Board shall have determined in a proceeding pursuant to section 408 of the Act that control does not exist; such control may be direct or by or through one or more intermediate subsidiaries likewise controlled or controlling through beneficial ownership of more than 40 per centum of outstanding voting capital stock.

(3) "Pass" means a written authorization issued by a carrier for free or reduced-rate transportation of persons or property; "annual pass" means such an authorization effective over a period of a calendar year; "term pass" means such an authorization effective over a specified period of less than a year; "trip pass" means such an authorization for a single one-way trip or round trip (whether the return trip is made via the same or a different route as the outbound trip) between designated points.

(4) "Free transportation" means the carriage by a carrier of any person or property (other than property owned by such carrier) in air transportation without compensation therefor; "reduced-rate transportation" means such carriage for a compensation less than that under the rate, fare, or charge published in the tariffs of such carrier on file with the Board and otherwise applicable to such carriage.

(5) All other words and phrases shall have the meaning defined in the Act.

(b) *Persons to whom free or reduced-rate transportation may be furnished.* Subject to the provisions of the Act and the orders, regulations, including this Regulation, and rules of the Board now or hereafter in effect, any carrier may at its option provide free or reduced-rate transportation to any or all classes of persons specifically mentioned in section 403 (b) of the Act; and in addition thereto, all carriers engaged in overseas or foreign air transportation may furnish free or reduced-rate transportation to

(1) directors, officers, and employees and members of their immediate families, of any affiliate of such carrier, the name of which affiliate currently is included in the list of affiliates filed by such carrier pursuant to paragraph (g) (3) of this section.

(2) directors, officers, and employees, and members of their immediate families, of any person operating as a common carrier by air, or in the carriage of mails by air, or conducting transportation by air, in a foreign country, but only over routes and in territories served in such foreign country.

(3) other persons to whom such carrier is required to furnish free or reduced-rate transportation by law or by a contract or agreement, now or hereafter in effect, between such carrier and the government of any country served by such carrier, but only to the extent so required and only if such contract or agreement is filed with the Board and if the provisions thereof relating to such transportation are not disapproved by the Board as being contrary to the public interest.

(c) *Passes to be issued.* No carrier shall furnish any free or reduced-rate transportation unless a pass therefor has been issued, except that passes need not be issued

(1) For any transportation provided for in any tariff on file with the Board and currently effective when such transportation is furnished.

(2) for necessary travel of the carrier's own directors, officers or employees in the performance of their official duties.

(3) for free or reduced-rate transportation of persons injured in aircraft accidents or of physicians or nurses attending such persons, or with the object of providing relief in cases of general epidemic, pestilence, or other calamitous visitation.

(4) for free or reduced-rate transportation authorized in any other section of the Economic Regulations or Order of the Board now or hereafter in effect.

(d) *Form of pass.* No carrier shall issue any form of pass other than an "annual," "term," or "trip" pass. Every pass shall be issued upon the express condition that it is subject to suspension or cancellation for the abuse of the privileges accorded thereunder, and must show on its face, at least, the name of the person or persons who, or whose property, is entitled to receive free or reduced-rate transportation. Each pass must bear either the signature in ink of an official named in the list referred to in paragraph (g) (1) hereof, or the facsimile signature of such an official and the counter-signature in ink of some other official or responsible subordinate who is designated by name and title on the pass, and before presented for transportation such pass must bear the signature in ink of the person to whom issued; *Provided,* That regular tickets or bills of lading, stamped with a suitable notation, may be used as trip passes, and when so used need not conform to the provisions of this paragraph as to form.

(e) *Carrier's records.* Each carrier shall maintain a record of all passes issued by it, which record shall be filed in such manner as to be accessible and convenient for examination, and shall contain the following information: the type of pass; dates of issuance and expiration; number; to whom issued, including name, address, and eligibility under the Act and under this Regulation; privileges accorded thereunder; points between which transportation is authorized, or, in the case of "annual" and "term" passes, the route number or system or particular points, as may be appropriate; and the name of the official upon whose authorization the pass was issued. All correspondence or memoranda relating to free or reduced-rate transportation shall be retained and made a part of the carrier's records. In the case of reduced-rate transportation, the records shall show the amount of the charge assessed or assessable.

(f) *Carrier's rules to be filed with the Board.* Each carrier shall file with the Board three copies of all instructions to its employees, and of all company rules and regulations, governing its practices in connection with the issuance and interchange of passes. If no instructions, rules, or regulations are in effect, then three copies of a general statement by an appropriate official of the carrier, comprehensively describing its practices in connection with the issuance and interchange of passes must be filed. Three copies of any change in any such instructions, rules, regulations, or statement of practices must be filed with the Board within thirty days after the effective date of such change.

(g) *Filing of lists.* Before issuing any pass each carrier shall file with the Board

(1) a list containing the name and title of each of its officials upon whose authorization passes may be issued,

(2) a list containing the name and title of each of its officials who are authorized to request passes from other carriers, and

(3) in the case of issuance of passes to directors, officers, employees, or members of their immediate families, of any affiliate of such carriers, a list containing all of such carrier's affiliates and showing the exact relationship of each such affiliate to such carrier as respects control and principal business.

Any change in any of such lists must be filed with the Board within fifteen days after such change is effective: *Provided,* That an affiliate not previously included in any list filed with the Board must be included in a new list prior to the issuance of any pass to any person authorized to receive such pass by reason of such affiliation.

(h) *Application for authority to carry other persons.* Any carrier desiring special authorization under section 403 (b) of the Act to furnish free or reduced-rate overseas or foreign air transportation to a person or persons not described in that section or in paragraph (b) of this Regulation may apply to the Board, by letter or other writing, for such authorization. The application shall state the identity of the person or persons to whom and the points between which such transportation is to be furnished, the time or approximate time of departure, and the carrier's reasons for desiring to furnish such transportation. Except as hereinafter provided, the application shall be made at least ten days before the transportation is to be furnished, and shall contain a definite indication that the carrier is willing and intends to furnish such transportation if authority to do so is granted by the Board. Such application shall be deemed to have been granted unless the Board shall otherwise advise the carrier within seven days after the application is received by the Board. In extraordinary cases, and for good cause shown, the application may be made within less than ten days before the transportation is to be furnished, but in such event shall not be deemed to have been granted unless the carrier is so advised before the transportation is furnished.

(*See Regulations, page 71*)

Status of Air Regulations

As of May 1, 1943

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

THOSE PARTS AND MANUALS ON WHICH A PRICE IS LISTED IN THE TABULATION WHICH FOLLOWS ARE ON SALE AT THE GOVERNMENT PRINTING OFFICE (SHOWN AS GPO IN TABLE), AND ARE NOT AVAILABLE FOR FREE DISTRIBUTION FROM THE CAA.

The Government Printing Office is the official sales agency for all government publications and is separate and distinct from the CAA and the Department of Commerce. The rules of the Superintendent of Documents require that *remittances be made in advance* of shipment of publications, either by coupons, sold in sets of 20 for $1 and good until used, or by check or money order payable to the *Superintendent of Documents, Government Printing Office.* Currency is sent at sender's risk. Postage stamps, foreign money, and smooth coins are not acceptable. A discount of 25 percent is allowable to book dealers and quantity purchasers of 100 or more publications, on condition that the purchasers will adhere to the public sales price set by the Superintendent of Documents and that publications shall not be overprinted with any advertising matter.

Eventually, all Parts and Manuals will be placed on sale; meanwhile, those not yet on sale (carrying remark, "Order from CAA only") may be obtained without charge from the CAA upon demonstration of valid interest on the applicant's part.

The following tabulation carries in the right-hand column the numbers of all effective amendments to each Part and Manual issued subsequent to its publication. Parts and Manuals obtained from the CAA will include all effective amendments, but amendments for Parts and Manuals purchased from GPO must be requested separately from the CAA. When requesting amendments from the CAA, please be sure to state Part numbers for which they are desired.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS AND MANUALS ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in standard three-ring binders.

For your guidance we have listed the Parts and Manuals applicable to the various airmen certificates issued.

Pilots:
Parts 01, 20, 60, 501, 503, and Manual 60
Airline Transport Pilots:
Parts 01, 04, 21, 27, 40, 60, 61, 98, 501, 503, and Manuals 04 and 60.
Lighter-Than-Air Pilots:
Parts 01, 22, 60, 501, 503, and Manual 60.
Aircraft Mechanics:
Parts 01, 04, 15, 18, 24, 501, 503, section 60.32, and Manuals 04, 15, and 18.
Aircraft Engine Mechanics:
Parts 01, 04, 13, 14, 18, 24, 501, 503, and Manuals 04, 14, and 18.
Parachute Technicians:
Parts 15, 25, 54, 60, and Release 144.
Air-Traffic Control-Tower Operators:
Parts 26, 60, and Manual 60.
Aircraft Dispatchers:
Parts 27, 40, 60, 61, and Manual 60.
Ground Instructors (rating in Civil Air Regulations):
Parts 01, 20, 51, 60, 501, 503, and Manual 60.

PARTS CANCELED AND UNASSIGNED

Canceled Parts 00 and 03 now incorporated in Part 501; canceled Part 23 now incorporated in Part 51. Parts 90–96, inclusive, canceled. All other Part numbers not shown are unassigned.

Civil Air Regulations

Aircraft

Part No.	Title	Date	Remarks	Price	Effective Amendments
01	Airworthiness Certificates	10–15–42	On sale at GPO	$0.05	
02	Type and Production Certificates	3–1–41	On sale at GPO	.05	
04	Airplane Airworthiness	8–15–42	On sale at GPO	.15	04–1, Reg. Ser. 228.
13	Aircraft Engine Airworthiness	8–1–41	On sale at GPO	.05	
14	Aircraft Propeller Airworthiness	7–15–42	On sale at GPO	.05	
15	Aircraft Equipment Airworthiness	11–15–40	In stock; order from CAA only		15–1, 15–2.
16	Aircraft Radio Equipment Airworthiness	2–13–41	On sale at GPO	.05	
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	9–1–42	On sale at GPO	.05	

Airmen

20	Pilot Certificates	9–1–42	On sale at GPO	$0.10	20–1, thru 20–4, Reg. Ser. 242, 247.
21	Airline Transport Pilot Rating	10–1–42	On sale at GPO	.05	21–1, 21–2, Reg. Ser. 236, 251.
22	Lighter-Than-Air Pilot Certificates	10–15–42	On sale at GPO	.05	Reg. Ser. 247.
24	Mechanic Certificates	10–1–42	On sale at GPO	.05	24–1, 24–2.
25	Parachute Technician Certificates	1–21–43	In stock; order from CAA only		
26	Air-Traffic Control-Tower Operator Certificates.	7–1–42	On sale at GPO	.05	26–1.
27	Aircraft Dispatcher Certificates	9–1–42	On sale at GPO	.05	27–1.
29	Physical Standards for Airmen	6–1–42	On sale at GPO	.05	

Air Carriers

40	Air Carrier Operating Certification	11–1–42	On sale at GPO	$0.10	40–1, 40–2.

Air Agencies

50	Flying School Rating	11–1–40	On sale at GPO	$0.05	87, 113, 50–3, Reg. No. 216.[1]
51	Ground Instructor Rating	7–1–42	On sale at GPO	.05	
52	Repair Station Rating	10–1–42	On sale at GPO	.05	
53	Mechanic School Rating	8–1–42	On sale at GPO	.05	
54	Parachute Loft Certificates and Ratings	1–21–43	In stock; order from CAA only		

Air Navigation

60	Air-Traffic Rules	7–15–42	On sale at GPO	$0.10	60–2 thru 60–18.
61	Scheduled Air-Carrier Rules	10–15–42	On sale at GPO	.10	61–1 thru 61–6.
66	Foreign Air-Carrier Regulations	1–15–42	On sale at GPO	.05	

Miscellaneous

97	Rules of Practice Governing Suspension and Revocation Proceedings.	10–1–42	In stock; order from CAA only		
98	Definitions	10–15–42	On sale at GPO	$0.05	
99	Mode of Citation of Regulations	11–15–40	In stock; order from CAA only		

[1] No copies available. (Waiver of requirements.) Consult CAA inspector for specific provisions of this amendment.

Status of Air Regulations

Regulations of the Administrator

Part No.	Title	Date	Remarks	Price	Effective Amendments
501	Aircraft Registration Certificates	3-31-43	In stock; order from CAA only		
503	Recordation of Aircraft Ownership	3-31-43	In stock; order from CAA only		
510	General Regulations, Washington National Airport.	9-26-41	In stock; order from CAA only		
511	General Aeronautical Rules for the Washington National Airport.	9-26-41	In stock; order from CAA only		
525	Notice of Construction or Alteration of Structures on or Near Civil Airways.	11-1-41	In stock; order from CAA only		1.
531	Seizure of Aircraft	12-8-41	In stock; order from CAA only		
532	Reproduction and Dissemination of Current Examination Materials.	1-15-43	In stock; order from CAA only		
600	Designation of Civil Airways	3-1-42	Not published [1]		1 through 21.[1]
601	Designation of Airway Traffic Control Areas, etc.	1-15-42	Not published [1]		1 through 27.[1]

Civil Aeronautics Manuals

04	Airplane Airworthiness	2-1-41	On sale at GPO	$0.50	Release 50, 97,[2] 105,[2] 117,[2] 140.[2]
14	Aircraft Propeller Airworthiness	12-1-38	In stock; order from CAA only		
15	Aircraft Equipment Airworthiness	7-1-38	On sale at GPO	.10	
16	Aircraft Radio Equipment Airworthiness	2-13-41	In stock; order from CAA only		Release 62.
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	6-1-41	On sale at GPO	.50	
50	Flying School Rating	12-40	In stock; order from CAA only		Release 77.
52	Repair Station Rating	2-41	In stock; order from CAA only		
53	Mechanic School Rating	5-40	In stock; order from CAA only		
60	Air Traffic Rules	11-15-42	On sale at GPO	.20	

[1] *See Air Navigation Radio Aids.*
[2] *Only pertinent pages furnished.*

Regulations

(*Continued from page 70*)

(i) *Repealer.* Section 228.5 of the Economic Regulations, as amended, hereby is repealed, but nothing contained herein shall be construed as repealing or amending any provision of any other section of the Economic Regulations.

REGULATION No. 270——— *April 8, 1943*
Effective April 8, 1943:

The regulation designated as follows is hereby repealed:

Serial Number 246, relating to pilot personnel of the armed forces assigned to an air carrier for training, adopted by the Board November 13, 1942.

Note.—The subject matter of this regulation is now covered by Regulation Serial Number 271 effective April 8, 1943.

REGULATION No. 271——— *April 8, 1943*
Effective April 8, 1943:

"Notwithstanding any provisions of the Civil Air Regulations to the contrary, personnel of the armed forces holding a rating as pilot or naval aviator assigned to an air carrier for training, may be admitted to the pilots' compartment of air carrier aircraft, in scheduled or nonscheduled flight and, at the discretion of the first pilot, may manipulate the controls from the copilot's seat: *Provided*, That a regularly assigned crew of the air carrier, holding the proper certificates and ratings, is aboard, and the first pilot occupies the left-hand pilot seat during the entire period the military trainee is occupying the copilot's seat, and: *Provided further*, That such operations shall not interfere with the carriage of air carrier inspection personnel of the Administrator in the performance of their official duties."

"This regulation shall terminate at the end of the war."

REGULATION No. 272——— *April 22, 1943*
Effective April 22, 1943:

"The holder of an airman certificate when serving in a foreign country may exercise the privileges of such certificate without complying with those provisions of the Civil Air Regulations requiring the possession of an identification card."

"This regulation shall terminate six months after the end of the war."

REGULATION No. 273——— *April 28, 1943*
Effective April 28, 1943:

"Notwithstanding section 40.2611 (b) of the Civil Air Regulations, any first pilot listed in the Eastern Airlines Airman Operations Specifications on April 15, 1943, who is qualified as competent to operate an aircraft in scheduled air transportation between Miami, Florida, and Washington, D. C., on April 15, 1943, may pilot aircraft under day contact conditions in scheduled transportation for said carrier into and out of the new Raleigh-Durham Airport, near Raleigh, North Carolina, upon furnishing evidence satisfactory to the Administrator, showing that the pilot is thoroughly familiar with the form and condition of the airport and with the location and nature of any obstructions in the vicinity."

AMENDMENT 20-5——— *April 22, 1943*
Effective April 22, 1943:

Part 20 of the Civil Air Regulations is amended as follows:

1. Amend section 20.15 to read as follows: "*20.15 Student glider pilot certificate.* To be eligible for a student glider pilot certificate, an applicant shall comply with the following requirements: *Provided*, That the holder of a currently effective pilot certificate of student grade or higher may serve as a student glider pilot without holding a student glider pilot certificate.'

2. Amend section 20.165 to read as follows: "*20.165 Aeronautical knowledge.* Applicant shall be familiar with and accomplish satisfactorily a written examination on the provisions of Part 60 dealing with contact flight. This requirement shall not be applicable to an applicant who possesses a currently effective pilot certificate of private grade or higher."

3. Amend section 20.167 to read as follows: "*20.167 Aeronautical skill.* Applicant shall demonstrate his ability to pilot a glider by satisfactorily making at least the following: One flight with a 180° turn and a downwind landing, one flight with a 360° turn to the right and a landing to within 200 feet of a designated mark, and one flight with a 360° turn to the left and a similar landing. If the applicant possesses a currently effective pilot certificate of private grade or higher, the Administrator may accept as evidence of the above required demonstration of ability, a statement from a commercial glider pilot certifying that the applicant has the aeronautical experience required in § 20.166 and has satisfactorily demonstrated to him the aeronautical skill required by § 20.167."

4. Amend section 20.175 to read as follows: "*20.175 Aeronautical knowledge.* Applicant shall be familiar with and accomplish satisfactorily a written examination on so much of Parts 01, 20, and 60 as are pertinent to his certificate. This requirement shall not apply to an applicant who possesses a currently effective pilot certificate of a private grade or higher."

AMENDMENT 21-2——— *April 2, 1943*
Effective April 2, 1943:

Section 21.400 of the Civil Air Regulations is amended as follows:

Strike the proviso which reads as follows:

21.400 Periodic physical examinations. * * *

"*Provided*, That the holder of an airline transport pilot certificate may, in lieu of each alternate periodic physical examination by such medical examiner of the Administrator, submit evidence satisfactory to the Administrator that he has within the preceding 15 days met at least the physical requirements prescribed in this Part by passing a physical examination prescribed by the air carrier by which he is employed."

AMENDMENT 60-17——— *April 8, 1943*
Effective April 8, 1943:

Section 60.33, excepting 60.330 through 60.332, of the Civil Air Regulation is amended to read as follows:

"*60.33 Traffic Control. No person shall* operate an aircraft within a control zone contrary to traffic control instructions issued by certificated air-traffic control-tower operators of the Administrator on duty at the control airport of such zone."

Amendment 60-18——— *April 8, 1943*
Effective April 8, 1943:

Section 60.530 of the Civil Air Regulations is amended to read as follows:

"*60.530 Traffic control.*

(a) *En route.* No person shall operate an aircraft en route contrary to traffic control instructions issued by an airway traffic control center of the Administrator.

(b) *Approach.* No person shall operate an aircraft during an approach for landing at a control airport contrary to traffic control instructions issued by a certificated air-traffic control-tower operator of the Administrator on duty at such airport."

Accidents

(Continued from page 63)

Loose Control Stick Fatal to Pilot

Collyn J. Saidla was fatally injured in an accident which occurred at Liberty Center, Ind., October 3, 1942. He held a student pilot certificate and had accumulated about 60 hours of flying time. The aircraft, a Piper J3F–65, was demolished.

The pilot obtained proper clearance and, flying from the rear seat, took off from the airport at Valparaiso, Ind., for a local practice flight. About one-half hour later he was observed southwest of Chesterton, circling to the left at an altitude of about 500 feet. During this circling, in which little or no altitude was lost, the aircraft suddenly nosed straight down, and dived to the ground, striking on the left wing and nose. It came to a stop about 8 feet beyond the point of first impact, with the tail extending upward at an angle of about 60°.

Examination of the wreckage revealed no evidence of mechanical failure of the aircraft or engine. The switch was in the "on" position, and the throttle was open. The rear cockpit control stick was found in the front left corner of the forward cockpit. It showed no signs of having been forced off the bottom fitting and the safety bolt hole was round and true. A search failed to locate the safety bolt, nut, or cotter pin. The stabilizer was found set in a slightly nose-heavy position.

J. C. Saidla, father of the pilot, stated that several weeks prior to the accident, an airport attendant, at his request, had placed a large cotter pin in the rear cockpit stick and the forward stick was removed entirely. On September 20, Saidla and his son made a 600-mile cross-country flight. Saidla, Sr., stated that before leaving on this trip he had his son remove the large cotter pin which had been used instead of a bolt and nut to safety the stick in place. This was done in order that they could shift the stick back and forth at their various stops en route, and thereby alternate at the controls. The head mechanic at the Valparaiso Airport stated that a week or so prior to this accident the pilot's father had taken his wife for a flight and she rode in the rear seat, necessitating transfer of the control stick from the rear to the forward cockpit. The mechanic stated further that he was not present when the stick was replaced in the rear cockpit. Just prior to the fatal flight, Saidla, Sr., had made a flight in the aircraft. He stated that the stick was in place in the rear cockpit at that time but that he did not know whether or not it was safetied. A witness to the accident, and the first person to arrive at the scene, stated that he unbuckled the safety belt and removed the pilot from the wreckage but did not see the control stick and did not think it could have been in place at that time.

It is apparent that this aircraft had been in operation for some time without the control stick being secured.

Probable cause—Improper installation of control stick, which came loose during the flight.

Telephone Wires Trip Crop-dusting Plane

Harold Lindsey Price was fatally injured in an accident which occurred near Homestead, Fla., January 19, 1943. Price held a commercial pilot certificate with a single-engine 80–300 h.p. land rating, and a waiver for crop dusting. He had flown approximately 4,100 hours, 800 of which were in crop-dusting operations and in the type airplane involved. The aircraft, a Huff-Daland Puffer, was demolished.

Price took off from the Homestead Airport and proceeded east about 2 miles to a tomato field approximately one-half mile long and one-fourth mile wide, which was to be dusted. Witnesses saw the airplane make two or three passes over the field, after which it was unobserved. Shortly thereafter a cloud of dust was observed by nearby laborers and the wreckage of the airplane was found in the tomato field. The pilot was on the ground about 20 feet from the wreckage. No witnesses to the actual crash could be located.

The aircraft was so thoroughly demolished that nothing of value could be determined as to the condition of the aircraft structure or engine prior to the accident. The throttle was in the closed position and ignition switches were "off". The condition of the propeller blades indicated little or no power was being developed at the time of impact. The safety belt was of webbed fabric, fastened by means of buckles and leather straps attached to the webbing. The leather had parted at the point of fastening.

A very loosely strung 10-wire telephone line, extending across the north end of the field being dusted and supported by poles about 15 feet high and 300 feet apart, sagged in the middle of the span to about 10 feet above the ground. The pilot had completed his initial swath of the field, pulled up over the wires and executed a 180° turn. On the return approach to the field, the landing gear struts struck the wires at a point about midway between two of the poles. The wires did not break but exerted an arresting action, causing the airplane to nose down into the ground from a very low altitude. This is substantiated by marks on the landing gear struts.

It appears that in this case, the pilot either misjudged his altitude or the relative position of the wires and failed to clear them, which resulted in loss of control of the airplane. In view of the pilot's extensive experience in this type of operation, such an error on his part would seem improbable, but in view of the circumstances, no other conclusion can be reached.

Probable cause—Failure to clear obstructions while engaged in crop dusting.

Instruction for Use Of New Plastics

Instruction has been issued to CAA field inspectors concerning the use in instrument flight training aircraft of the two thin, transparent plastic materials, one red and the other green, which have been developed by the Polaroid Corporation, Cambridge, Mass.

Blanket permission for the use of these materials cannot be granted, but certain types of installations which meet air safety requirements may be approved, Instruction No. 144 advises.

The green material, obtainable in flexible sheets, is designed to line or replace the windshield and windows of the aircraft, and the red material is fitted into goggles which are worn by the student instrument pilot. The combination of the two colors results in a complete opaqueness, hence the student is unable to see beyond the confines of the cockpit or cabin but is able to see the instrument panel, although exceptionally strong lighting is necessary since the red goggles eliminate almost two-thirds of the visible spectrum.

The green material, however, reduces the visibility of the check pilot or flight instructor. Contrasts of black and white are readily visible through the green material, but other colors are diffused and transformed into various shades of white and black.

Because of this probable visual handicap, inspectors are instructed that they may approve installations where the green material is merely used in place of and in a similar manner to the conventional cloth hood, if the installation complies with the existing requirements.

But where the green material is used to replace or cover any part of the windshield or windows, the installation will be treated in the same manner as a major alteration and complete data must be submitted to Aircraft Engineering for such analyses and tests as may be required to determine its conformity with airworthiness requirements.

Helicopter Proposed As Pick-up Plane

The Helicopter has cropped up in the applications the Civil Aeronautics Board has been getting for air mail pick-up service to smaller towns.

Northeast Airlines has applied for a certificate to operate a pick-up service to around 500 towns in the New England States and New York. They propose to use the Helicopter type of plane in an airport to post office service.

With a Helicopter or similar aircraft, they would be able to deliver the mail directly to the roofs of post offices and railroad stations or in adjacent areas as small as 15 feet square.

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